

What Is Claimed Is:

Sub 17  
1. A process for reclaiming fibers from a resinous fibrous product comprising the steps of:

5 (a) selecting an acid for use in an acid bath solution as a function of the type of resinous coating on the resinous fibrous product;

10 (b) inserting the resinous fibrous product into a washer/extractor machine, wherein said resinous fibrous product comprises a form including a strand form and a mat form;

(c) while said resinous fibrous product is in said machine, performing the steps of:

15 (i) introducing said resinous fibrous product to said acid bath solution heated to approximately 200 degrees Fahrenheit for a period of time sufficient to substantially remove a resinous residue from a fiber portion of the resinous fibrous product;

20 (ii) removing said acid bath solution and said resinous residue from said washer/extractor machine;

25 (iii) rinsing said fiber portion to remove any residual acid bath solution and resinous residue;

(d) removing said fiber portion from said washer/extractor machine; and

(e) dewatering said fiber portion.

30 2. The process of claim 1 further comprising the step of:

(iv) applying a sizing composition to said fiber portion prior to the step of (d) removing said fiber portion from said washer/extractor machine.

5

3. The process of claim 1 further comprising the step of forming a fiberglass mat from said fiber portion after the step of dewatering said fiber portion.

10

4. The process of claim 1, wherein the step of (b) inserting the resinous fibrous product within a washer/extractor machine comprises the step of (b) inserting the resinous fibrous product within a single chamber washer/extractor machine.

15

5. The process of claim 1, wherein the step of (b) inserting the resinous fibrous product within a washer/extractor machine comprises the step of (b) inserting the resinous fibrous product within an electronically controlled single chamber washer/extractor machine

20

6. The process of claim 1, wherein the step of (b) inserting the resinous fibrous product within a washer/extractor machine comprises the step of (b) inserting the resinous fibrous product within a multi-chamber washer/extractor machine.

25

7. The process of claim 1, wherein the step of (b) inserting the resinous fibrous product within a washer/extractor machine comprises the step of (b) inserting the resinous fibrous product within

30

an electronically controlled multi-chamber washer/extractor machine.

8. The method of claim 1, further  
5 comprising the step of (f) drying said fiber portion in an oven.

9. The method of claim 1, wherein the  
acid bath solution comprises said acid and a quantity  
10 of water in a ratio of between ten and fifty percent acid to water by volume.

10. The method of claim 1, wherein said  
resinous fibrous product comprises glass fibers.

11. The method of claim 1, further  
comprising the steps of:  
forming a slurry comprising said fibers and  
a binder; and  
20 forming a wet-process mat from said slurry.

12. The method of claim 12, wherein the  
step of forming said slurry is formed within said  
machine.

13. A method for recovering a resinous  
residue from a resinous fibrous product that may be  
further processed into a usable nitrogen product  
comprising the steps of:

30 selecting an acid for use in an acid bath solution as a function of the type of resinous coating on the resinous fibrous product;

Sub B2

Sub B2  
5 inserting the resinous fibrous product within a washer/extractor machine, wherein the resinous fibrous product may be in the form of a plurality of strands or in the form of a mat;

10 introducing said resinous fibrous product to said acid bath solution heated to approximately 200 degrees Fahrenheit for a period of time sufficient to substantially remove the resinous residue from a fibrous portion of the resinous fibrous product;

removing said acid bath solution and said resinous residue from said washer/extractor machine;

15 introducing said acid bath solution and said resinous residue into a cooling line to precipitate said resinous residue; and

removing said precipitated resinous residue from said acid bath solution using a clarifier.

20 14. The process of claim 13, wherein the step of inserting the resinous fibrous product within a washer/extractor machine comprises the step of inserting the resinous fibrous product within a single chamber washer/extractor machine.

25 15. The process of claim 13, wherein the step of inserting the resinous fibrous product within a washer/extractor machine comprises the step of inserting the resinous fibrous product within an electronically controlled single chamber  
30 washer/extractor machine.

16. The process of claim 13, wherein the step of inserting the resinous fibrous product within

a washer/extractor machine comprises the step of inserting the resinous fibrous product within a multi-chamber washer/extractor machine.

5                    17. The process of claim 13, wherein the step of inserting the resinous fibrous product within a washer/extractor machine comprises the step of inserting the resinous fibrous product within an electronically-controlled multi-chamber  
10 washer/extractor machine.

15                    18. A method for reclaiming fibrous and a resinous residue from a resinous fibrous product in the form of a strand or a mat comprising the steps of:

                  selecting an acid for use in an acid bath solution as a function of the type of resinous coating on the resinous fibrous product;

20                    inserting the resinous fibrous product within a washer/extractor machine;

                  introducing said resinous fibrous product to said acid bath solution heated to approximately 200 degrees Fahrenheit for a period of time sufficient to substantially remove the resinous  
25 residue from a fibrous portion of the resinous fibrous product;

                  removing said acid bath solution and said resinous residue from said washer/extractor machine;

30                    rinsing said fibrous portion to remove any residual acid bath solution and resinous residue;

                  removing said fibrous portion from said washer/extractor machine;

                  dewatering said fibrous portion;

Sub B3

Sub B3

introducing said acid bath solution and  
said resinous residue into a cooling line to  
precipitate said resinous residue; and

removing said precipitated resinous residue  
5 from said acid bath solution using a clarifier.

19. The process of claim 18, wherein the  
step of inserting the resinous fibrous product within  
a washer/extractor machine comprises the step of  
10 inserting the resinous fibrous product within an  
electronically-controlled single-chamber  
washer/extractor machine

20. The process of claim 18, wherein the  
15 step of inserting the resinous fibrous product within  
a washer/extractor machine comprises the step of  
inserting the resinous fibrous product within a  
multi-chamber washer/extractor machine.

21. The process of claim 18, further  
20 comprising the step of drying said fibrous portion in  
an oven.

22. The process of claim 18, further  
25 comprising the step of applying a sizing composition  
to said fibrous portion prior to the step of removing  
said fibrous portion from said washer/extractor  
machine.

23. The process of claim 18, wherein said  
30 acid bath solution comprises said acid and a quantity  
of water in a ratio of between ten and fifty percent  
acid to water by volume.

24. The process of claim 23, wherein said acid is phosphoric acid.

5                    25. The process of claim 18 further  
comprising the step of forming a fibrous mat from  
said fibrous portion after the step of dewatering  
said fibrous portion.

10

[illegible]